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EXAMINER

NOTE, JANIS L

ART UNIT	PAPER NUMBER
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1795

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/670,320	Applicant(s) WATANABE ET AL.	
	Examiner Janis L. Dote	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,8,10,13,14,21-24 and 26-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,8,10,13,14,21-24 and 26-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/8/07;12/5/07;12/17/07</u> . | 6) <input type="checkbox"/> Other: _____ |

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1. The examiner acknowledges the cancellation of claims 3, 9, 11, 12, 15-20, and 25 and the amendments to claims 1, 21, 24, and 26 filed on Dec. 26, 2007. Claims 1, 8, 10, 13, 14, 21-24, and 26-28 are pending.

2. The examiner has considered the US copending applications listed in the "List of related cases" in the Information Disclosure Statements filed on Nov. 8, 2007, Dec. 5, 2007, and Dec. 17, 2007.

3. In the responses filed on Dec. 26, 2007, applicants stated that translational errors occurred in claim 1 and in a passage at page 7 of the certified English translation of the priority document JP 2002-365782 filed on Jul. 9, 2007. Applicants submitted a "corrected" translation of claim 1 with a "declaration" signed by the translator Atsuko Sanabe attesting to said error. In the supplemental response filed on Jan. 9, 2008, applicants stated that they have found another translational error in a passage at page 7, of the certified translation filed on Jul. 9, 2007. Applicants submitted a second "corrected" translation of said disclosure at page 7 and of claim 7 with a "declaration" signed by the translator, attesting to said errors.

Applicants' statements are mere attorney argument because they have not provided any objective evidence to support their statements. In the response filed on Jul. 9, 2007, applicants' representative stated that the "Certified English Translation of Japanese priority document JP 2002-365782" was filed. The translator of the priority document, Atsuko Sanabe, executed on Jun. 22, 2007, the "declaration" attached to the translation. In that document, the translator stated that "I . . . do hereby certify that to the best of my knowledge and belief the attached document [the translation] is the true English translation of Japanese Patent Application No. 2002-365782 duly filed with the Japanese Patent Office as of December 17, 2002."

In light of the translator's previously certified translation filed on Jul. 9, 2007, as a "true English translation," the later "declarations," which were executed by the translator Atsuko Sanabe, filed on Dec. 26, 2007, and on Jan. 9, 2008, are, of little, if any, probative value because they are not in declaration or affidavit form as provided by 35 U.S.C. 25 and 18 U.S.C. 1001. "The reason for requiring evidence in declaration or affidavit form is to obtain the assurances that any statements or representation made are correct, as provided by 35 U.S.C. 25 and 18 U.S.C. 1001." See MPEP 716.02(g).

Accordingly, the alleged "corrected" translations will not replace those portions of the certified English language translation filed on Jul. 9, 2007, and will not be considered by the examiner in determining whether the instantly claimed subject matter is described in the priority document as required under 35 U.S.C. 112, first paragraph.

4. The rejection of claim 24 under 35 U.S.C. 112, second paragraph, set forth in the office action mailed on Aug. 24, 2007, paragraph 6, has been withdrawn in response to the amendment to claim 24 filed on Dec. 26, 2007.

The objection to claim 3 set forth in the office action mailed on Aug. 24, 2007, paragraph 9, has been mooted by the cancellation of claim 3 filed Dec. 26, 2007.

The rejections under 35 U.S.C. 103(a) of claims 1, 3, 8-11, 13, 14, 17, 18, 21-25, 27, and 28 over US 2003/0152859 A1 (Emoto), set forth in the office action mailed on Aug. 24, 2007, paragraphs 17 and 18, where Emoto was considered to qualify as prior art under 35 U.S.C. 102(e), have been withdrawn because Emoto has been shown not to be prior art under 35 U.S.C. 103(a) and 35 U.S.C. 103(c). Applicants' representative has shown that Emoto and the instant application were owned by the same person

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at the time the invention in the instant application was made.

See the remarks filed on Dec. 26, 2007, page 11, lines 10-12.

5. The following is a quotation of the first paragraph of 35

U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claim 24 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.

The claim contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Instant claim 24 recites that the toner particles are prepared by a "method comprising dissolving or dispersing a composition in an organic solvent, to obtain a solution or dispersion, said composition comprising at least a polyester modified prepolymer (A) capable of reacting with an active hydrogen, and the second resin [which has a weight average molecular weight of 2,000 to 10,000], the colorant, and the

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release agent, and to prepare the toner particles and to be subjected to a polymerization reaction in an aqueous medium and obtaining the solvent from the solution or dispersion by removing said solvent, cleaning the toner particles and drying the toner particles."

The originally filed specification does not provide an adequate written description of the method steps recited in instant claim 24. The originally filed specification, at page 12, line 24, to page 13, line 12, describes making toner particles by a method comprising the steps of: "dissolving or dispersing a composition, which includes at least a modified polyester resin capable of reacting an active hydrogen, and a second resin having a weight average molecular weight of from 2,000 to 10,000, a colorant, a release agent, and a compound having an active hydrogen, in an organic solvent, to prepare an oil phase liquid; dispersing the oil phase liquid in an aqueous medium including a particulate material while subjecting the modified polyester resin to a polymerization reaction to prepare a modified polyester resin and to prepare a dispersion; removing at least the organic solvent in the dispersion to form toner particles; washing the toner particles; and drying the toner particles" (emphasis added). The method steps recited in instant claim 24 are broader than those disclosed in the instant

specification because they do not require the steps or components described in the originally filed specification. In addition, the disclosure does not describe using a "polyester prepolymer (A)." The term "polyester prepolymer (A)" is broader than the disclosed "modified polyester" because it includes "non-modified polyester" resins.

The originally filed specification further describes making a toner of "the present invention." That toner comprises a particulate material embedded into the surface of the toner particles, where the particulate material has an average particle diameter of from 0.002 to 0.2 times that of the toner particles embedded into the surface of the toner particles. The toner further comprises a binder resin having a glass transition temperature (T_g) "of not lower than 35°C and lower than 55°C." The originally filed specification, page 10, lines 9-22. The method of making said toner comprises the steps of: "dissolving a composition including at least a modified polyester resin in an organic solvent to prepare an oil phase liquid; dispersing the oil phase liquid in an aqueous medium including a particulate material . . . while subjecting the polyester resin to a reaction such as addition polymerization using a crosslinking agent and/or an extending agent to prepare particles . . . and the binder resin in the toner of the present

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invention has a glass transition temperature lower than those of binder resins for use in normal toners [i.e., "of not lower than 35°C and lower than 55°C"], and the particulate material are present on the surface of the toner particles (while embedded into surface)" (emphasis added). See the originally filed specification, page 10, lines 9-22, and page 14, line 20, to page 15, line 21. The originally filed specification at page 16, lines 1-4, further describes the binder resin of the toner of the invention as including "[a]s the modified polyester resin, urea-modified polyester resins." According to the originally filed specification at page 16, lines 8-17, "[s]uitable urea-modified polyester resins include reaction products of a polyester prepolymer (A) with an amine (B). As the polyester prepolymer (A), for example, compounds prepared by reacting a polycondensation product of a polyol(1) and a polycarboxylic acid (2), which has a group having an active hydrogen, with a polyisocyanate (3) are used."

The method recited in instant claim 24 is also broader than the method for forming the "toner of the present invention" described in the originally filed specification at pages 10 and 14-16 because it does not require the steps or components described in the originally filed specification. Nor does the recited method recite that the polymerization step be an

addition polymerization using a crosslinking agent and/or an extending agent. The originally filed specification does not appear to provide an adequate written description of the broadly recited process steps recited in instant claim 24.

Applicants' arguments filed on Dec. 26, 2007, have been fully considered but they are not persuasive.

Applicants assert that the amendment to claim 26 filed on Dec. 26, 2007, overcomes the rejection. However, for the reasons discussed above, the amendment to claim 26 does not overcome the rejection.

7. Claims 1, 8, 10, 13, 14, 21-23, and 26-28 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention.

Instant claims 1, 21, 26, and claims dependent on claim 1 recite "dissolving or dispersing a composition, which comprises at least a polyester prepolymer (A) capable of reacting with an active hydrogen . . . [and] a compound having an active hydrogen, in an organic solvent to prepare an oil phase liquid;

dispersing the oil phase liquid in an aqueous medium comprising said [claim 26: including a] particulate material while subjecting the polyester prepolymer (A) to a polymerization reaction to prepare the [claim 26: an] urea-modified polyester resin."

The originally filed specification does not provide an adequate written description of said process steps as recited in the instant claims. The originally filed specification at page 12, line 26, to page 13, line 10, describes a method of making a toner as described in paragraph 6 above, which is incorporated herein by reference. That disclosure does not describe using a "polyester prepolymer (A)" and subjecting said prepolymer (A) to form a urea-modified polyester resin as recited in the instant claims. The term "polyester prepolymer (A)" is broader than the disclosed "modified polyester" because it includes "non-modified" polyester resins.

The originally filed specification further describes making a toner of "the present invention" at page 10, lines 9-22, and page 14, line 20, to page 15, line 21, as described in paragraph 6 above, which is incorporated herein by reference. As discussed in paragraph 6 above, the originally filed specification at page 16, lines 1-4, further describes the binder resin of the toner of the invention as including "[a]s

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the modified polyester resin, urea-modified polyester resins." According to the originally filed specification at page 16, lines 8-17, "[s]uitable urea-modified polyester resins include reaction products of a polyester prepolymer (A) with an amine (B). As the polyester prepolymer (A), for example, compounds prepared by reacting a polycondensation product of a polyol(1) and a polycarboxylic acid (2), which has a group having an active hydrogen, with a polyisocyanate (3) are used."

The method recited in the instant claims is broader than the method for forming the "toner of the present invention" described in the originally filed specification because it does not recite the use of an "amine" as the compound having an active hydrogen. Nor does the recited method recite that the polymerization step be an addition polymerization using a crosslinking agent and/or an extending agent. The originally filed specification does not appear to provide an adequate written description of the broadly recited process steps in the instant claims.

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. US 2003/0138717 A1 (Yagi) was published on Jul. 24, 2003, prior to the filing date of Sep. 26, 2003, of the instant application. The inventive entity of Yagi differs from that of the instant application. Thus, Yagi qualifies as prior art under 35 U.S.C. 102(a). Accordingly, Yagi qualifies also as prior art under 35 U.S.C. 103(a) and 103(c).

10. Claims 1, 8, 10, 21-24, 26, and 27 are rejected under 35 U.S.C. 103(a) as unpatentable over Yagi, as evidenced by the Polymer Technology Dictionary, page 444, and by applicants' admission at page 26, line 20, to page 27, line 2, page 28, lines 10-18, and Table 1 at page 83, examples 1-6 and comparative examples 3 and 4, of the originally filed specification (applicants' admission 1).

Yagi discloses a toner comprising toner particles comprising a binder resin, carnauba wax as the releasing agent, and carbon black, and organic fine resin particles 1 adhered to the surface of the toner particles at a coverage ratio of 32%. See paragraphs 0239-0273; example 2 in paragraph 0274; and Table 1 at page 23, example 2. The binder resin comprises a modified polyester resin and an unmodified polyester resin, low molecular weight polyester 1. The toner has a number average particle size (D_n) of 5.50 μm and a volume average particle size

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(Dv) of 6.07 μm , and a ratio of Dv/Dn of 1.10. The toner also has an average circularity of 0.953. See Table 1 at page 23, example 2. The reference low molecular weight polyester resin has a weight average molecular weight of 6700, which is within the second resin weight average molecular weight range of 2,000 to 10,000 recited in instant claims 1, 21, 24, and 26. The weight ratio of the modified polyester to low polyester resin 1 is about 0.6, which is within the ratio range of 5/95 to 60/40 recited in instant claim 8. The weight ratio was determined by the information provided in example 2 of Yagi. The carnauba wax meets the releasing agent limitation recited in instant claim 22. Organic fine resin particles 1 have a Tg of 57°C, and an average particle size of 100 nm. The Tg meets the Tg range recited in instant claims 1, 21, 24, and 26. The organic fine resin particle average particle size of 100 nm is 0.016 times the average particle size of the toner particles (6.07 μm = 6070 nm), which is within the range of 0.002 to 0.2 times recited in instant claims 1, 21, 24, and 26.

Yagi further discloses that toner particles can be mixed with an external additive to assist in improving fluidity, developing property, and charging ability of the toner particles, which meets the external additive limitation recited in instant claim 23. Paragraph 0176.

Yagi also discloses that the toner can be used in a two-component developer comprising a carrier, which is coated with a resin layer. The resin layer may comprise an acrylic resin or a silicone resin. Paragraph 0222, lines 5-8, 14-15, and 17-18. The two-component developer meets the developer limitation recited in instant claim 27. Yagi discloses a toner container shown in Fig. 2. Paragraph 0236.

Yagi does not expressly describe the modified polyester resin in example 2 as a urea-modified polyester resin as recited in the instant claims. However, in paragraph 0137, Yagi teaches that urea-modified polyester resins are obtained by reacting a polyester prepolymer having an isocyanate group with an amine. In example 2, the modified polyester resin is obtained by reacting the polyester prepolymer 1 having an isocyanate group with the ketimine compound 1. See Yagi, paragraphs 0245-0250 and 0263. Thus, based on the teachings in Yagi, it is reasonable to conclude that the modified polyester in the toner in example 2 of Yagi is a urea-modified polyester resin. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

The Yagi toner in example 2 is obtained by: (1) preparing a master batch comprising the carbon black and a polyester resin; (2) preparing a material solution comprising the carnauba wax and the low molecular weight polyester 1; (3) forming a pigment-wax dispersion by mixing the master batch of step (1), the material solution, and additional low molecular weight polyester; (4) mixing the pigment-wax dispersion of step (3), a polyester prepolymer resin comprising isocyanate groups, which is capable of reacting with an active hydrogen to form the modified polyester, and a ketimine compound, which has an active hydrogen, in an organic solvent; (5) dispersing the mixture of step (4) in an aqueous medium comprising the organic fine resin particles, while reacting the ketimine compound with the urea-modified polyester resin to form toner particles; (6) removing the organic solvent from the dispersion of step (5); (7) washing the toner particles resulting from step (6); and (8) drying the washed toner particles. Paragraphs 0252-0273. The Yagi process steps meet the process steps recited instant claims 1, 21, 24, and 26.

Yagi does not explicitly disclose that the binder resin in example 2 has a glass transition T_g of not lower than 35°C and lower than 55°C recited in instant claims 1, 21, 24, and 26. Nor does Yagi disclose that the binder resin comprises the

tetrahydrofuran (THF) insoluble components recited in instant claims 1, 21, 24, and 26.

The originally filed specification discloses that the toner binder resin preferably has a Tg of not lower than 35°C and lower than 55°C. According to the originally filed specification, when the Tg is too high, the resultant toner has poor low temperature fixability; and when the Tg is too low, "the resultant toner has poor preservability and thereby the blocking problem in that the toner particles adhere to each other, resulting in formation of a block of the toner tends to occur." Instant specification, page 26, line 20, to page 27, line 2, and Table 1 at page 83, examples 1-6 and comparative example 3.

The specification discloses that the binder resin comprises THF-insoluble components in an amount of 2 to 30 wt% based on the total weight of the binder resin. According to the originally filed specification, when the amount of THF-insolubles is too low, the resultant toner has poor hot offset resistance; and when the amount is too high, the toner has poor low temperature fixability. Instant specification, page 28, lines 10-18, and Table 1, examples 1-6 and comparative example 4.

As discussed above, the toner binder resin in the Yagi toner particles and the Yagi toner particles meet the

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compositional limitations recited in instant claims 1, 21, 24, and 26; but the properties discussed supra are not disclosed expressly. As discussed supra, the Yagi toner in example 2 is obtained by a process that meets the steps recited in instant claims 1, 21, 24, and 26. Yagi teaches that its binder resin preferably has a Tg of from 50 to 70°C. According to Yagi, when the Tg is too low, the high temperature preservability of the toner deteriorates. Paragraph 0154. Yagi discloses that the toner in example 2 has low temperature fixability and offset resistance, and does not contaminate the image forming members used, such as the fixing device and image bearing member.

Paragraph 0032; and Table 3 at page 23, example 2, which reports that the toner in example 2 has a "lower fixing temperature" of 140°C and exhibits no occurrence of offset for temperatures below 220°C. Table 3 also reports that no toner filming was observed. These are the properties sought by applicants. Accordingly, because the Yagi binder resin and toner particles in example 2 meet the compositional limitations recited in the instant claims and the Yagi toner appears to have the toner properties sought by applicants, it is reasonable to presume that the binder resin in the Yagi toner in example 2 has the Tg recited in instant claims 1, 21, 24, and 26, and comprises the THF insoluble components recited in instant claims 1, 21, 24, and 26. The

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burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

Yagi also does not explicitly disclose that the organic fine resin particles are embedded in the surface of the toner particles as recited in instant claims 1, 21, 24, and 26. However, as discussed above, organic fine resin particles 1 in example 2 of Yagi are present on the surface of the toner particles in a coverage ratio of 32%. The Yagi toner in example 2 is obtained by a process that meets the steps recited in the instant claims. Therefore, it is reasonable to presume that the Yagi organic fine resin particles are embedded in the surface of the toner particles as recited in the instant claims. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Yagi does not appear to exemplify organic fine resin particles comprising a crosslinked resin as recited in the instant claims. However, Yagi teaches that the organic fine resin particles can equally comprise a thermoplastic resin or a thermosetting resin. Paragraph 0078, lines 3-4. A thermosetting polymer is usually defined as "a low molecular weight polymer, which may be cured, or cross-linked so as to yield a cross-linked plastics material or a vulcanized rubber." See the Polymer Technology Dictionary, page 444. The term

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"crosslinking agent" broadly recited in the instant claims encompasses anything that aids the crosslinking process. It is also well known in the polymer art that crosslinked thermosetting polymers are cross-linked by crosslinking agents. Thus, on the present record, Yagi teaches cross-linked organic fine particles that meet the cross-linked particulate resin recited in the instant claims. Yagi further teaches that the thermoplastic resins and thermosetting resins include vinyl resins, polyurethane resins, epoxy resins, or polyester resins. Paragraph 0078-0079.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Yagi, to use a thermosetting resin as the resin in the organic fine resin particles, such that the resultant fine resin particles are cross-linked with a cross-linking agent as recited in the instant claims. It would have also been obvious for that person to use the resultant organic fine resin particles as the organic fine resin particles in the toner in example 2 of Yagi. That person would have had a reasonable expectation of successfully obtaining a toner that does not prevent the toner from adhering to a receiving member and has the properties as discussed by Yagi.

11. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yagi, as evidenced by the Polymer Technology Dictionary, page 444, and applicants' admission 1, as applied to claim 1 above, combined with US 2002/0037467 A1 (Watanabe).

The claim is rejected for the reasons discussed in the office action mailed on Oct. 20, 2006, paragraph 7, which are incorporated herein by reference.

12. Applicants' arguments filed on Dec. 26, 2007, as applicable to the rejections over Yagi in paragraph 10 and 11 above have been fully considered but they are not persuasive.

Applicants assert that Yagi is not prior art because they have perfected their claim to foreign priority under 35 U.S.C. 119 to the priority document, Japanese Patent Application No. 2002-365782, filed on Jul. 9, 2007.

Applicants' assertion is not persuasive. The certified English-language translation of said priority document filed on Jul. 9, 2007, does not provide an adequate written description of the subject matter recited in instant claims 1, 8, 10, 21-24, and 26-28 as set forth under 35 U.S.C. 112, first paragraph, for the following reasons:

(1) In claims 1, 21, 26, and claims dependent on claim 1, the steps "dissolving or dispersing a toner composition, which

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comprises at least a polyester prepolymer (A) capable of reacting with an active hydrogen . . . [and] a compound having an active hydrogen, in an organic solvent to form an oil phase liquid; dispersing the oil phase liquid in an aqueous medium comprising said [claim 26: including a] particulate material while subjecting the polyester prepolymer (A) to a polymerization reaction to prepare the [claim 26: an] urea-modified polyester resin" are not described in the translation.

The translation describes making a toner of "the present invention." That toner comprises a particulate material embedded into the surface of the toner particles, where the particulate material has an average particle diameter of from 0.002 to 0.2 times that of the toner particles. The toner further comprises a binder resin having a glass transition temperature (T_g) of "of not lower than 35°C and lower than 55°C." See the translation, page 7, lines 5-22. The method of making said toner described in the translation comprises the steps of: "dissolving a composition including at least a modified polyester resin in an organic solvent to prepare an oil phase liquid; dispersing the oil phase liquid in an aqueous medium including particulate material . . . while subjecting the polyester resin to a reaction such as addition polymerization using a crosslinking agent and/or an extending agent to prepare

particles . . . [and] the binder resin in the toner of the present invention has a glass transition temperature lower than those of binder resins for use in normal toner [i.e., "of not lower than 35°C and lower than 55°C"], and the particulate material are present on the surface of the toner particles (while embedded into surface)" (emphasis added). See the translation, page 7, lines 5-22, and page 8, paragraph 0010. The translation in paragraphs 0011 and 0012, further describes the binder resin of the toner of the invention as including "urea-modified polyester resins" and that "examples thereof include reaction products of a polyester prepolymer (A) with an amine (B). Polyester prepolymer (A) having an isocyanate group include, for example, compounds prepared by reacting a polycondensation product of a polyol(1) and a polycarboxylic acid (2), which has a group having an active hydrogen, with a polyisocyanate (3) are used."

The method recited in the instant claims is broader than the method for forming the "toner of the present invention" described in the translation because it does not recite that the polyester prepolymer (A) has an isocyanate group as described in the translation. Nor does the recited method recite the use of an "amine" as the compound having an active hydrogen. Nor does the recited method recite that the polymerization step be

addition polymerization using a crosslinking agent and/or an extending agent. There is no description in the translation of the broadly recited process steps in the instant claims.

(2) In claim 24, the method steps do not appear to be described in the translation. The translation describes a method for forming a toner as described in item (1) above. The method recited in the instant claim is broader than the method for forming the "toner of the present invention" described in the translation because it does not recite that the polyester prepolymer (A) has an isocyanate group as described in the translation. Nor does the recited method recite use of an "amine." Nor does the method recite the use of an aqueous solution comprising the particulate material previously recited in claim 24. Nor does the recited method recite that the polymerization step be addition polymerization using a crosslinking agent and/or an extending agent. There is no description in the translation of the broadly recited process steps recited in instant claim 24.

(3) The carrier layer comprising at least one member selected from the group consisting of an acrylic resin, a silicone resin and mixtures thereof recited in instant claim 27 does not appear to be described in the translation. See the translation at page 7, lines 31 and 32, which only describes a

"carrier layer formed from at least one of an acrylic acid and a silicone resin."

Accordingly, for the reasons discussed above, Yagi is prior art to the subject matter recited in instant claims and the rejections in paragraphs 10 and 11 over Yagi stand.

13. US 2003/0152859 A1 (Emoto'859) was published on Aug. 14, 2003, prior to the filing date of Sep. 26, 2003, of the instant application. The inventive entity of Emoto'859 differs from that of the instant application. Thus, Emoto'859 qualifies as prior art under 35 U.S.C. 102(a). Accordingly, Emoto'859 qualifies also as prior art under 35 U.S.C. 103(a) and 103(c).

14. Claims 1, 8, 10, 13, 14, 21-24, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emoto'859, as evidenced by applicants' admissions at page 41, line 10, to page 42, line 8, of the instant specification (applicants' admission 2), combined with US 4,980,257 (Anno).

Emoto'859 discloses a developer comprising a magnetic carrier coated with a silicone resin layer and a toner that comprises toner particles. The toner particles comprise a binder resin, carnauba wax as the releasing agent, and a colorant. The binder resin comprises a modified polyester resin

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and an unmodified polyester that are present in a weight ratio (modified to unmodified) of about 0.31, which is within the ratio range of 5/95 to 80/20 recited in instant claim 8. See example 4 at page 12, and paragraph 0214. The amounts of the modified and unmodified resins were determined from the information provided in example 4. The magnetic carrier meets the carrier limitation recited in instant claim 27. The toner particles further comprise a charge control agent fixed on the surface of the toner particles in an amount of 0.25 parts by weight per 100 parts by weight of toner particles, and externally added hydrophobic silica and titanium oxide. Paragraphs 0129-0130 and paragraph 0147, lines 17-18. The binder resin comprises 6 wt% of tetrahydrofuran insoluble components, which is within the amount ranges recited in instant claims 1, 21, and 24. The binder resin has a peak molecular weight M_p of 6,500, a number-average molecular weight M_n of 3,500, and a T_g of 49°C. See Table 1, example 4. The binder resin T_g meets the T_g range recited in instant claims 1, 21, and 24. The toner has a spindle form and a volume average particle size (D_v) of 6.2 μm , and a ratio of the volume average particle size (D_v) to the number average particle size of 1.10. Paragraph 0147, lines 12-13, and Table 2, example 4. The spindle form meets the form limitation recited in instant

claim 13. Emoto'859 further teaches a container comprising said toner. Paragraph 0117, image developer **4** in Fig. 1.

According to Emoto'859 its toner provides high quality images having good reproducibility of a micro dot image. The toner has highly reliable cleanability, good low-temperature fixability, and good transferability. Paragraphs 0011-0012.

Emoto'859 does not expressly describe the modified polyester resin as a urea-modified polyester resin as recited in the instant claims. However, in paragraph 0059, Emoto'859 teaches that urea-modified polyester resins are obtained by reacting a polyester prepolymer having an isocyanate group with an amine. In example 1, paragraph 0027, Emoto'859 shows that a polyester prepolymer having an isocyanate group reacted with the ketimine compound of formula 1 forms a urea-modified polyester resin. In example 4, the modified polyester resin is obtained by reacting a polyester prepolymer having an isocyanate group with the ketime compound of formula 1 under reaction conditions similar to that used in example 1. Thus, based on the teachings in Emoto'859, it is reasonable to conclude that the modified polyester in the toner in example 4 of Emoto'859 is a urea-modified polyester resin. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Emoto'859 also does not disclose that the toner satisfies

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the dimensional relationships recited in instant claim 14.

However, as discussed above, the toner disclosed by Emoto'859 has a spindle form that meets the shape limitation recited in instant claim 13. Furthermore, the instant specification at page 41, lines 10-25, discloses that when the ratio $r2/r1$ is too small, the dot reproducibility and transfer efficiency deteriorate; if the ratio $r2/r1$ is too large, the toner has a "form near the spherical form and therefore the cleaning problem tends to occur." The instant specification at page 41, line 26, to page 42, line 8, also discloses that if the ratio $r3/r2$ is too small, the toner has "a form near a flat form, and thereby the toner has low transferability," and when the ratio $r3/r2$ is 1.0, the "toner can be rotated while the major axis is the rotation axis." The Emoto'859 toner in example 4 exhibits good cleanability, dot reproducibility, transferability, and image qualities. See Emoto'859, Table 3 at page 15, example 4. The Emoto'859 toner exhibits the properties sought by applicants. Accordingly, because the Emoto'859 toner has a spindle form and appears to exhibit the properties sought by applicants, it is reasonable to presume that the Emoto'859 toner satisfies the dimensional relationships recited in instant claim 14. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

Emoto'859 does not disclose that the unmodified polyester resin has a weight-average molecular weight as recited in instant claims 1, 21, and 24. However, Emoto'859 teaches that the unmodified polyester resin preferably has a weight average molecular weight of 10,000 to 300,000, which overlaps the range of 2,000 to 10,000 recited in instant claims 1, 21, and 24. Paragraph 0072, line 10, and paragraph 0074, lines 3-5.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Emoto'859, to use an unmodified polyester resin having a weight-average molecular weight as recited in the instant claims as the unmodified polyester in the toner in example 4 of Emoto'859. That person would have had a reasonable expectation of successfully obtaining a spindle shaped toner having the benefits disclosed by Emoto'859.

Emoto'859 does not disclose that the surface of the toner particles in example 4 comprises a particulate material where the particulate material is embedded on the surface of the toner particles as recited in instant claims 1, 21, and 24.

Anno teaches thermally fixing minute cross-linked vinyl resin particles **a** having a Tg of 83°C and minute vinyl resin particles **b** having a Tg of 81°C to the surface of toner particles using a heat-treating and impact type modifying machine, the

Nara Hybridization System. Both minute resin particles **a** and **b** have an average particle size of 1 micron. Col. 16, lines 40-45; col. 20, lines 51-55; col. 21, lines 24-58; and col. 23, lines 43-55. The Tg's are within the Tg ranges recited in instant claims 1, 21, and 24. The minute resin particles **a** and **b** meet the compositional limitations recited in instant claims 1, 10, 21, and 24. The average particle size of 1 micron is about 0.16 times the average particle size of the Emoto'859 toner particles in example 4 ($6.2\text{ }\mu\text{m} = 6200\text{ nm}$), which meets the particle size ratio limitation recited in instant claims 1, 21, and 24. Anno further teaches that it is desirable that the minute resin particles of the first thermoplastic resin have an average particle size of 0.05 to 3 microns, i.e., 50 nm to 3000 nm; that the minute resin particles of the second thermoplastic resin have an average particle size of 0.4 to 3 microns, i.e., 400 to 3,000 nm; and that both are no less than 1/100 and no more than 1/5 of the average particle size of the toner particles. Col. 11, lines 17-23. According to Anno, toner particles comprising the minute resin particle **a** and **b**, as taught by Anno, have stable charging properties, high flowability, and "high cleaning property." Col. 3, lines 54-58, and Tables 3 and 4 at cols. 27-30, example 1 and comparative example 10, which does not comprise any minute resin particles.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Anno, to add the Anno minute resin particles **a** and **b** to the surface of the toner particles rendered obvious over the teachings of Emoto'859 in the manner taught by Anno. That person would have had a reasonable expectation of successfully obtaining a toner that has high flowability, stable charging property, and high cleaning property, as disclosed by Anno.

Instant claims 1, 21, and 24 are written in product-by-process format. The Emoto'859 toner in example 4 is not obtained by the process steps recited in instant claims 1, 21, and 24. However, as discussed above, the combined teachings of Emoto'859 and Anno render obvious a toner that meets the compositional limitations recited in instant claims 1, 21, and 24, and that would appear to have very similar properties in use. Accordingly, the toner rendered obvious over the combined teachings of Emoto'859 and Anno appears to be the same or substantially the same as the toner obtained by process steps recited in instant claims 1, 21, and 24. The burden is on applicants to prove otherwise. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983); In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985); MPEP 2113.

15. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Emoto'859, as evidenced by applicants' admission 2, as applied to claim 1 above, combined with Watanabe.

The claim is rejected for the reasons discussed in the office action mailed on Aug. 24, 2007, paragraph 18, which are incorporated herein by reference.

16. Applicants' arguments filed on Dec. 26, 2007, as applicable to the rejections over Emoto in paragraph 14 and 15 above have been fully considered but they are not persuasive.

Applicants assert that Emoto is not prior art because they have perfected their claim to foreign priority under 35 U.S.C. 119 to the priority document, Japanese Patent Application No. 2002-365782, filed on Jul. 9, 2007.

Applicants' assertion is not persuasive. The certified English-language translation of said priority document filed on Jul. 9, 2007, does not provide an adequate written description of the subject matter recited in instant claims 1, 8, 10, 13, 14, 21-24, 27, and 28 as set forth under 35 U.S.C. 112, first paragraph, for the reasons discussed in paragraph 12 above, which are incorporated herein by reference.

In addition, there is no description in the translation of the toner particles having a spindle form as recited in instant claims 13 and 14.

Accordingly, for the reasons discussed above, Emoto is prior art to the subject matter recited in instant claims and the rejections in paragraphs 13 and 14 over Emoto stand.

17. Claims 1, 8, 10, 13, 14, 22-24, 26, and 28 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 28-30 and 33-50 of copending Application No. 11/545,429 (Application'429), as evidenced by that portion of the disclosure in Application'429 that supports the subject matter recited in the claims in Application'429.

The examiner notes that the rejection is based on the amended claims filed on Jan. 25, 2008, in Application'429. The examiner also notes that a Notice of Allowability, covering those claims, was mailed on Feb. 25, 2008, in Application'429.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in Application'429 renders obvious the subject matter recited in the instant claims.

Reference claim 28 of Application'429 recites an image forming method comprising the step of fixing a toner image on an image bearing material by passing the image bearing material through a nip between a fixing belt and a pressure member as recited instant claim 28. The reference toner is obtained by process steps that meet the process steps recited in instant independent claims 1, 21, 24, and 26, but for identifying the modified polyester resin as a urea-modified polyester resin. The toner comprises toner particles comprising a binder resin, a colorant, and a release agent and a particular material embedded on the surface of the toner particles. The binder resin comprises a modified polyester resin and a second resin having a weight average molecular weight of 2,000 to 10,000 as recited in instant independent claims 1, 21, 24, and 26. The binder resin has a glass transition (Tg) temperature that meets the Tg range recited in instant independent claims 1, 21, 24, and 26. The particulate material has an average particle diameter that meets the particle size limitation recited in instant claims 1, 21, 24, and 26. The particulate material comprises a cross-linked resin that comprises a vinyl resin. The term "crosslinking agent" broadly recited in the instant claims encompasses anything that aids the crosslinking process. It is also well known in the polymer art that crosslinked polymers are cross-

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linked by crosslinking agents. Thus, on the present record, the reference claims of Application'429 recite a crosslinked particulate resin material that meets the particulate resin crosslinked with a crosslinking agent as recited in instant claims 1, 10, 21, 24, and 26.

The claims in Application'429 do not expressly recite that the modified polyester resin recited in reference claim 28 is a urea-modified polyester resin. However, that portion of Application'429 that supports the modified polyester resin recited in the reference claims teaches that the modified polyester resin can be a urea-modified polyester resin. See Application'429, page 16, lines 3-5. The urea-modified polyester resin meets the urea-modified polyester resin recited in the instant claims. When addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in a patent, "those portions of the specification which support the patent claims may be also be examined and considered." See MPEP 804,II.B.1, p. 800-22, citing In re Vogel, 164 USPA 619, 622 (CCPA 1970).

Reference claim 30, which depends from reference claim 29, which in turn depends on reference claim 28, requires that the particulate material have a Tg of 55 to 100°C that meets the Tg limitation as recited in instant claims 1, 21, 24, and 26.

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Reference claim 33, which depends from reference claim 28, requires that the toner binder resin comprise THF insolubles that meet the THF-insoluble limitations recited instant claims 1, 21, 24, and 26. Reference claims 35, 37, 40, 41, 49, and 50, which depend from either reference claims 28 or 29, recite the binder resin limitation, the particulate material limitations, the toner particle shape limitations, and other toner compositional limitations recited in instant dependent claims 8, 10, 13, 14, 22, and 23, which depend from instant claim 1.

It would have been obvious for a person having ordinary skill in the art, in view of the subject matter recited in the claims of Application'429, as evidenced by that portion of the disclosure in Application'429 that supports the subject matter recited in the claims of Application'429, to make and use a toner as recited in the instant claims. That person would have had a reasonable expectation of successfully obtaining a toner, a method of making said toner, and a method of fixing a toner image using said toner that meet the limitations recited in the instant claims.

Applicants' arguments filed on Dec. 26, 2007, have been fully considered but they are not persuasive.

Applicants assert that if the provisional rejection is the only issue remaining in the case, the examiner should convert the provisional rejection in the other application to a double patenting rejection and withdraw the provisional rejection in the instant application.

Applicants' assertion is not persuasive. Because the provisional rejection is not the only remaining issue in the instant specification, the rejection stands. Furthermore, even if the provisional rejection were the only issue, the rejection would not be withdrawn. As noted supra, a Notice of Allowability was mailed on Feb. 25, 2008, in Application'429. Prosecution is closed in that application and an obviousness-type double patenting rejection cannot be in that application.

18. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Sandra Sewell, whose telephone number is (571) 272-1047.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Janis L. Dote/
Primary Examiner, Art Unit 1795

JLD
Mar. 29, 2008